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ABSTRACT

This guide, which examines the relationship between learning processes and learning outcomes, is aimed at senior managers, quality managers, and others at colleges and other post-16 learning providers in the United Kingdom. It is intended to help them define the key processes undertaken by learning providers, understand the critical relationships between these processes, determine the potential scope and benefits of process improvement programs, examine the tools and techniques for analyzing and improving process performance, and identify the critical success factors for improving process performance. Following an Introduction, chapter titles and their section headings are as follows: (1) Understanding Learning Processes (What are learning processes? Why are learning processes important? Step change or continuous improvement? Managing by function or process?); (2) Preparing for Process Improvement (Selecting processes for improvement, Establishing process design teams, Scoping process boundaries); (3) Analyzing Processes (High-level mapping, Process flowcharting, Process walk-through, Process step analysis, Measuring process performance); (4) Improving Processes (Identifying process problems, Benchmarking process performance, Redesigning processes, setting service standards, implementing new processes); (5) Process, Structure and Culture (Changes to structures, cultural change, a vision of process and organizational change). There are 14

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- We aim to reach all colleges and work-based learning providers.
- We offer extra support to colleges and work-based learning providers that are receiving Standards Fund money to improve their practice.
- All our activity themes are backed by a programme of research and evaluation.
- The Raising Quality and Achievement Programme is funded by a grant to the Learning and Skills Development Agency from the Learning and Skills Council.

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improving learning processes

principles, strategies
and techniques

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Introduction

The government is committed to putting the learner at the centre of its strategies for raising standards in post-16 learning. The emphasis on learner-centred improvement has shifted the focus of attention to the outcomes of learning with providers being expected to set challenging targets for learner achievement, retention, progression and overall satisfaction. Increased attention is also now being focused on core processes of teaching and training as the prime means for achieving improved educational and training results.

This guide examines the relationship between learning processes and learning outcomes. It advances a number of key principles that, though simple, are not always evident in the practices of providers or in discourse on quality improvement in post-16 learning. The principles may be summarised as follows.

- It is not possible to improve learning outcomes without enhancing the learning processes by which such outcomes are achieved.
- 'Learning processes' must be understood and examined in relation to all the activities that take place within an educational or training organisation. Within this guide we therefore refer to learning processes as all those activities that contribute either directly or indirectly to effective learning outcomes.
- All learning processes, including the core processes of teaching and training, can be planned, managed and improved using well-tested strategies and techniques.
- Strategies and techniques for improving learning processes may need to be located within a wider programme of organisational and cultural change. Organisational structures should ideally reflect the needs of the processes, not drive them.

- Processes should be developed in relation to the goals of individual providers and the particular needs of their learners. Processes should be responsive to but not driven by external 'compliance' requirements (such as inspection).

Using these principles as yardsticks, this guide will enable readers to:

- define the key processes undertaken by learning providers
- understand the critical relationships between these processes
- determine the potential scope and benefits of process improvement programmes
- examine the tools and techniques for analysing and improving process performance
- identify the critical success factors for improving process performance.

The principles, strategies and techniques described in this document can be used to analyse and improve work activities at any level, in any function, of a learning organisation. Although directed mainly at senior managers and quality managers, the guide will therefore interest all staff wishing to improve quality and standards in post-16 learning.

Understanding learning processes

What are learning processes?

Process is a much used and frequently misused term in education and training. It is used interchangeably with terms like system, procedure and structure. It is equated with regulation and bureaucracy. It is commonly regarded as a distraction from the 'real' business of improving learning and learning outcomes. We should therefore start by correcting some of these misconceptions.

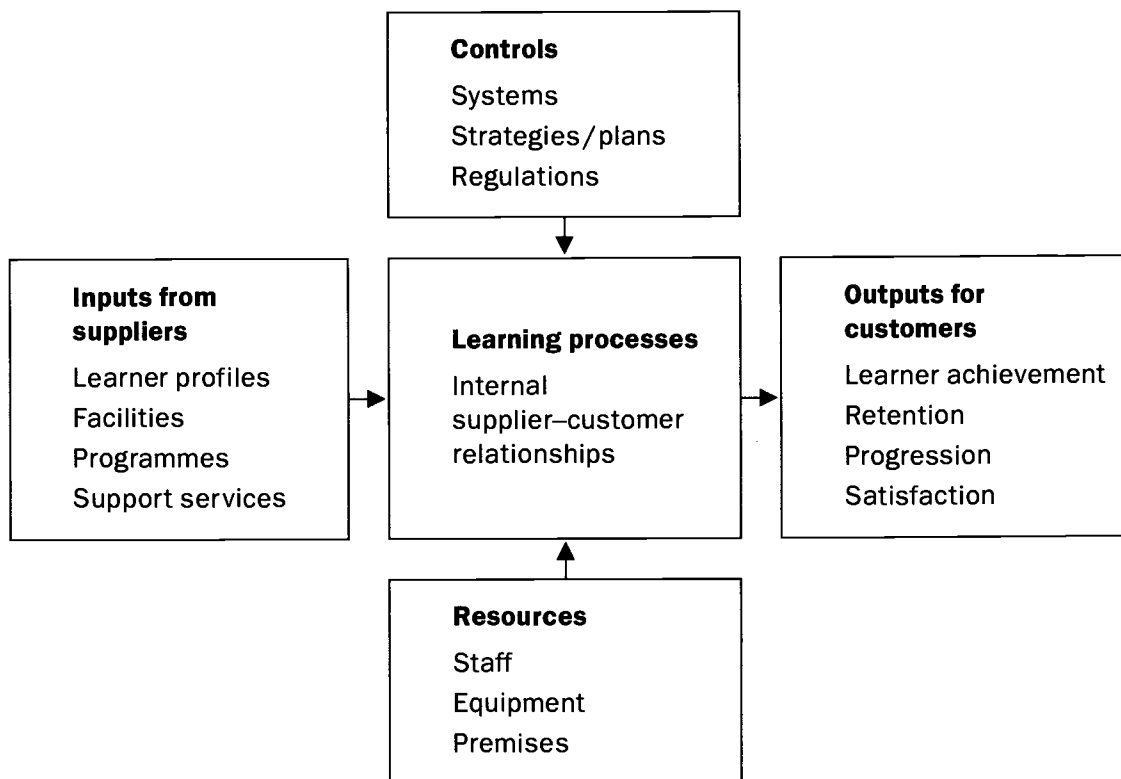
Simply stated, processes are the activities and tasks that are carried out to produce goods and services. Processes transform inputs (such as people, raw materials and information) from 'suppliers' into desired outputs (such as skilled people, new products and information services) for 'customers'. In doing so they 'add value' to supplier inputs. All work is process and there can be no products or services without processes.

All processes are based on a series of (internal or external) customer–supplier relationships, or 'quality chains'. Failure to meet customer or supplier requirements at any point in the chain creates problems elsewhere leading to more problems. Quality improvement is about identifying the needs of customers and suppliers and developing the capacity to meet (or exceed) those needs.

Using this analysis, education and training can be represented as a transformation process that converts prospective learners (inputs) into learners with defined learning outcomes (outputs). The relationship between inputs and outputs is indicative of the value added by the learning processes. Like all organisations, learning providers require resources to operate their processes. They also require systems and other 'controls' to ensure that a process is operating effectively and efficiently. An information **system** is, for example, a control that is used to manage an information **process**.

These characteristics of an educational and training process are illustrated in Figure 1.

Figure 1 Education and training as a process



Hundreds of processes operate in all organisations. They can be differentiated in terms of their overall contribution to the goals and purposes of the organisation.

- **Core processes** provide direct services to external customers and are critical to the mission and strategy of the organisation. Recruitment, teaching, training and guidance are core processes for learning providers. They are the reasons why such providers exist.
- **Enabling processes** are necessary to support the operation of the core processes. For example, a college does not exist to 'manage staff' but is unlikely to demonstrate excellence in teaching and learning without well-executed arrangements for the recruitment, induction, development and appraisal of staff. Enabling processes should always be developed in relation to the needs of the core processes.

- **Compliance processes** include those processes that are required by regulatory bodies as a condition for licensed operations, eg statistical returns to funding bodies or inspection by external agencies. As a general principle, learning providers should ensure that their processes are responsive to but not driven by external 'compliance' requirements. Processes should always be developed in relation to the particular needs of the provider and their learners.

Figure 2 defines some of the typical processes of an education or training provider.

Figure 2 Classifying learning processes

Core processes	Enabling processes	Compliance processes
Developing learning programmes	Managing staff	Inspection visits
Recruiting learners	Managing information	Submitting data returns
Inducting learners	Managing finance	Accreditation visits
Diagnosing learner needs	Managing property	
Facilitating learning	Managing quality	
Assessing and verifying learning	Making policies/plans	
Providing guidance and support		

Why are learning processes important?

We have represented education and training as a transformation process that seeks to convert prospective learners (inputs) into learners with defined learning outcomes (outputs). Given the diversity of learning needs within the post-16 sector, it is important that providers are able to measure the relationship between inputs and outputs (and thereby demonstrate the 'value added' by the learning processes). They should also ensure that their learning processes are matched to the characteristics and capabilities of learners (the inputs to the learning process) rather than vice versa. Last, but not least, they should ensure that learning processes are configured to achieve desired learning outcomes (including targets for learner achievement, progression and satisfaction).

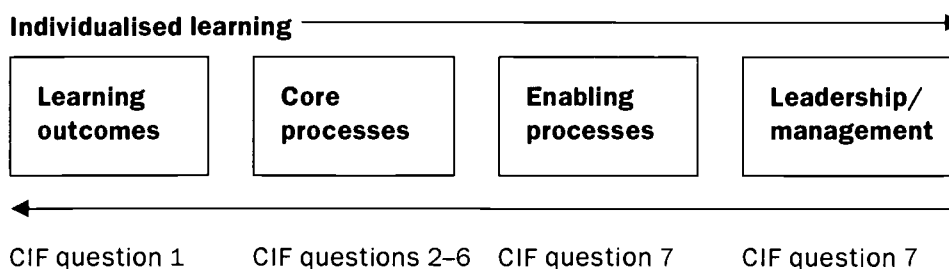
These requirements are evident in the principles underpinning the Common Inspection Framework (CIF) and in particular the key question 'How effective and efficient is the provision of education and training in meeting the needs of learners and why?'

This question invites inspectors and providers to address the links between achievements and standards (question 1 of the framework), the quality of education and training (questions 2–6) and leadership and management (question 7). From a process improvement perspective these questions may be restated as follows.

- Do learners achieve their learning goals?
- Do the core, learner-facing, processes contribute to learner success?
- Do the enabling processes support the operation of the core processes?
- Are these processes strategically led, effectively managed and properly resourced?
- Do these processes meet the needs of individual learners (differentiation)?

These questions offer a framework for improving learning outcomes as shown in Figure 3.

Figure 3 A framework for improving learning outcomes

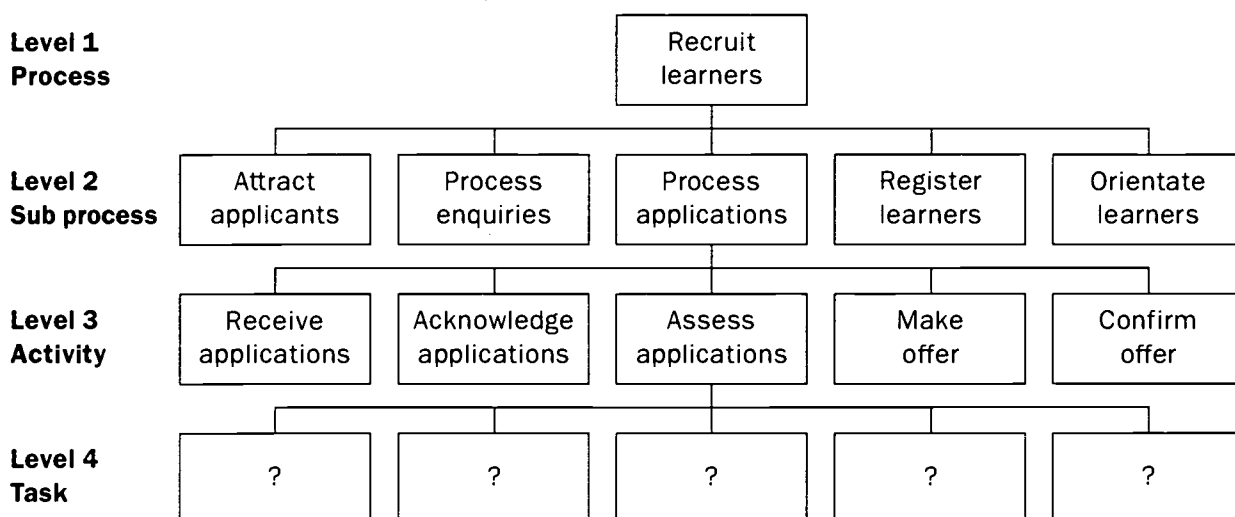


In summary, learning outcomes are determined largely by the way providers design, operate, manage and continuously improve their core and enabling processes in a way that is responsive to the needs of individual learners.

Step-change or continuous improvement?

Processes can be examined at different levels of analysis. As part of an educational or training process we can identify a number of high-level processes such as 'recruit learners', 'facilitate learning', 'assess learners', etc. The high-level (level 1) process 'recruit learners' can be broken down into a number of sub-processes: 'attract applicant', 'process enquiries', 'process application', etc. The (level 2) sub process 'process application' can be further broken down into more detailed (level 3) activities: 'assess application', 'make offer', etc. Such (level 3) activities can in turn be broken down into more detailed (level 4) tasks. These principles are illustrated in Figure 4.

Figure 4 Breaking down processes: the process hierarchy



The notion of a process hierarchy is central to understanding of the opportunities and risks associated with process improvement programmes. In general terms high-level process analysis offers greater scope for organisational change and improvement. Low-level process analysis will have less impact on the overall organisation but can be done in less time with reduced risk. These distinctions help differentiate process improvement strategies aimed at achieving step-change improvements in organisational performance from those seeking continuous or incremental improvements in the performance of existing processes.

The first approach, commonly referred to as process re-engineering, is usually undertaken in response to pressures for major organisational change (rapid growth, new clients, poor quality ratings, decline in funding, high costs, mergers, new technology, etc). It involves a 'clean sheet' reappraisal of how work is undertaken within an organisation and why. High-level process mapping techniques are typically used for this purpose (see page 19).

Re-engineering seeks to develop new ways of working based on the premise: 'if we didn't have a (given) process, how would we invent one?' In the words of Hammer and Champy (1993), 're-engineering is the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality of service and speed'.

Re-engineering has a number of defining characteristics that distinguish it from models of continuous improvement. In summary, process re-engineering:

- is strategic in concept and must be executive-led
- focuses on 'high-level' processes
(eg redesigning a student entry process)
- involves process redesign across departmental boundaries
- uses advances in information technology*
- sets 'stretch' improvement goals
- requires strong leadership
- takes time – it is not a 'quick fix'.

* Information technology is a powerful enabler for process change. Unfortunately, many organisations implement new computerised information systems without rethinking the work processes on which the new systems could be based. This brings extra costs but few benefits. Too often new systems are added to old processes resulting in costly old processes!

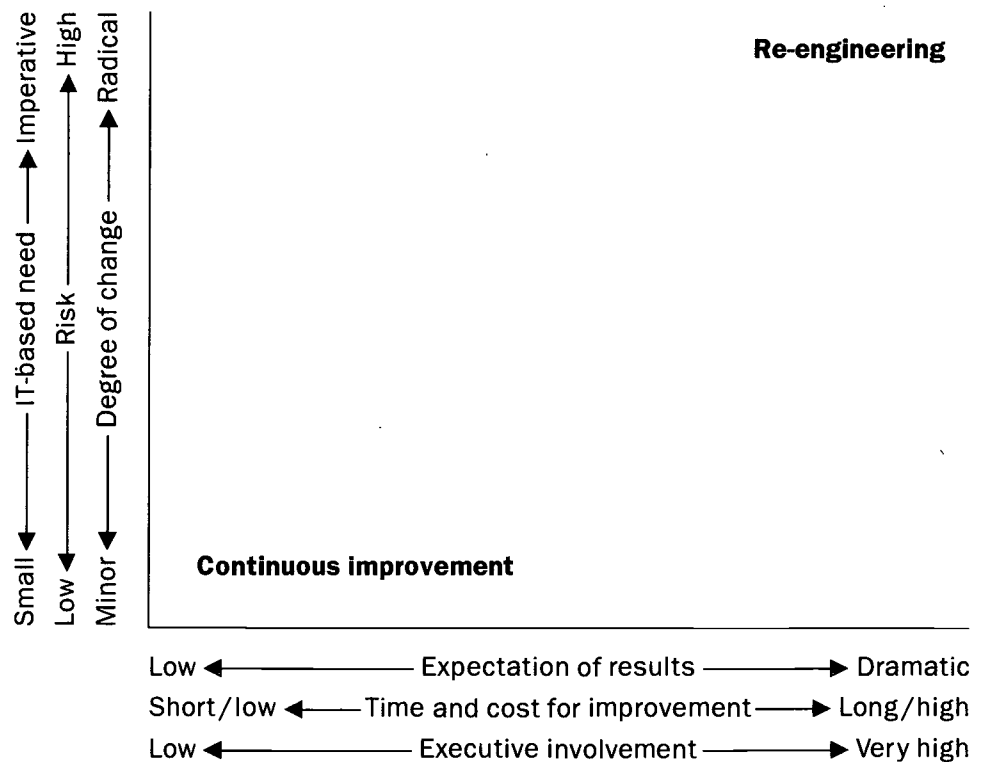
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Strategies for continuous improvement are normally associated with small-scale changes to existing processes at a local or departmental level. Staff are empowered to seek out and implement improvements to processes within their sphere of authority, often without reference to their impact on other parts of the organisation. For example, a department might wish to change its arrangements for interviewing learners in ways that have few implications for college-wide recruitment practices.

Under continuous improvement activities and tasks are examined in detail, often using techniques like process flowcharting (see page 19). Changes can normally be implemented quickly with minimal cost and low risk. The involvement of a wide range of staff in the analysis of activities and tasks can have a powerful effect on the work culture of the organisation.

The relationships between process re-engineering and models of process improvement based on continuous improvement are illustrated in Figure 5.

Figure 5 Process improvement: re-engineering or continuous improvement?

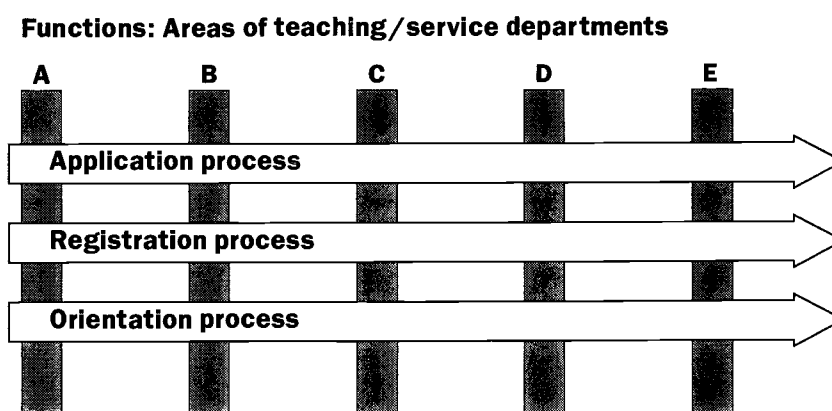


Managing by function or process?

To understand the potential for change offered by process improvement programmes, it is necessary to understand the relationships that exist between processes and functions. Processes describe the sequencing of activities undertaken for a specific purpose (eg student recruitment), while functions define the organisation of activities around given areas of knowledge and expertise (eg specified areas of learning, student services, marketing).

Most processes include activities that involve multiple functions or departments. For this reason customer needs (including the needs of learners) invariably cross functional boundaries. This can be illustrated by Figure 6, which demonstrates the cross-functional nature of the student entry process (where functions may represent teaching and service departments).

Figure 6 Learner processes cross departmental boundaries



Despite the cross-functional needs of learners, most learning providers are likely to be organised by function not process. This has a number of important implications.

First, because roles and responsibilities are typically defined in relation to functional needs, there is invariably no one to own or optimise individual processes or to oversee the critical relationships between them. Processes therefore often lack a strategic focus.

The scope, purpose and timing of particular activities may also be problematic in relation to the needs of the entire process. 'Peaks and troughs' may result from the failure to plan and manage processes – creating work-scheduling problems for staff and students.

Second, the lack of process ownership means that processes are typically managed and developed in an ad-hoc incremental way, often in response to the needs and vested interests of individual departments, rather than the end-user. Departments may seek to optimise their own performance at the expense of the overall process. A culture of internal competition can then develop between departments that reduces process effectiveness and inhibits opportunities for the sharing of good internal practice. (Research into the factors that support or inhibit the sharing of good practice within colleges is currently being carried out as part of the LSDA Raising Quality and Achievement Programme.)

A further consequence of the failure to plan and manage provider processes is that few people understand the entire process within which they work and how their own actions affect other parts of the process. This often only becomes particularly apparent when cross-functional teams are established to analyse and improve a process. The awareness-raising created by such team exercises provides a powerful impetus for process-based change.

A fourth issue relates to performance measurement. In most organisations it is easy to obtain measures of departmental performance. By contrast, process performance is usually inadequately or inappropriately measured. Few providers would, for example, be able to identify the costs of processes such as student recruitment, initial assessment or student assessment. This makes it impossible to assess the efficiency of these core processes (see page 24). It also makes it impossible to determine whether too much (or too little) is being spent on them.

This point has implications for target-setting by providers and external agencies. While there have been many external attempts to improve the performance and accountability of colleges and other learning providers through the introduction of various performance targets, most have been directed simplistically at the 'functional' components of what are a highly interdependent set of learning processes.

Finally, we should note some of the adverse effects of 'functional' thinking on learners and other customers. Many of the problems experienced by learners occur at the interfaces of functional or departmental boundaries. There are many stories of learners who are referred from department to department in an unsuccessful attempt to solve the problem at hand (the 'hand-off' syndrome). Note also the problems caused to learners by inconsistent practice, or duplication across departments, rendering problematic the use of generic service standards (see page 33).

Variations in practice can be justified by reference to the needs of learners (what we might term 'rational diversity') but too often such variations result from ad-hoc development and/or departmental interests. Strategies for learner-centred improvement demand that processes be examined across as well as within departmental boundaries. Process improvement programmes ideally should not be constrained by organisational structures. Indeed it is a central tenet of process improvement that systems and structures should reflect process needs, not vice versa. These matters are considered further in 'Process, structure and culture' (page 37).

Preparing for process improvement

Selecting processes for improvement

Process improvement can be undertaken at any level of an organisation. A senior manager may select a high-level process such as 'recruiting learners' to re-engineer. A departmental head may select an activity such as 'interviewing students' to redesign. A team leader may choose a task such as 'convening an interview panel' to improve. The level of process analysis should therefore be considered when selecting processes for improvement.

It is also necessary to be clear about reasons for seeking improvement. Criteria for embarking on a process improvement programme might include:

- changes to strategic objectives
- customer complaints
- high-cost processes
- waste or misuse of resources
- delays in processes
- identify new ways of working (via benchmarking)
- new technologies available.

Where appropriate, the selection criteria should be weighted.

- How serious is the problem?
- How much can it be improved?
- How much does the customer care?
- What are the potential benefits of improvement for staff?

Consider too any constraints of the selection process.

- Can the process be easily changed?
- Will changes affect the organisational structures?
- Will there be support or resistance?
- Are there external requirements?
- Are there time limits on change?
- Will resources be available to support project and possible changes?

Establishing process design teams

Process design teams are normally appointed to scope, analyse and redesign the process selected for improvement. Sub-process redesign teams may also be appointed to carry out the detailed analysis of activities and tasks associated with the redesign of large complex processes. Such teams may lack an appreciation of the entire process but can be used to highlight flaws in the grand redesign.

Teams should ideally comprise between 6 and 10 members (more may inhibit effective teamwork) and include representatives from all departments involved in the process, preferably from different levels of the organisational hierarchy (known as a 'diagonal slice'). An 'independent' perspective can be gained by appointing a person working outside the process. Team members should have credibility with other staff and demonstrate a willingness to embrace and lead change. They should be given time to participate in improvement activity and trained in the tools and techniques of process improvement.

Scoping the process boundaries

No process stands alone in an organisation; each process is linked to other processes, often in complex ways. In selecting processes for improvement, decisions must be taken about where a process should begin and where it should end. Process boundaries define:

- what is included in the process
- what is not included in the process
- the outputs from the process (and the customers)
- the inputs to the process (and the suppliers).

Process should always be scoped wide enough to cover known problems, and in the best interests of customers. Beyond this principle decisions about process boundaries always involve judgements. There are no right or wrong answers to the question of where a process begins and ends. What is essential is that the process redesign team establishes a **consensus** on the scope of the process under review. Too often providers seek to plan or improve processes without such a shared understanding, with obvious consequences for how the process is subsequently planned and managed.

The following exercise sets out some of the basic tasks to be undertaken in scoping a process. Use it to examine whether colleagues within your own organisation have a shared understanding of arrangements for the initial assessment of learners. As a guide, Figure 7 (page 17) illustrates the range of scoping judgments that might be used for the process of 'observing teaching and training'.

Exercise Scoping an initial assessment process

-
- 1 **Use Post-it notes to record what you consider to be the key activities in this process.**
Use verb + noun to record each activity eg 'interview learners' (one Post-it note per activity).
 - 2 **On a flipchart list the activities** in the order in which they are undertaken. Separate learner-facing activities from those carried out 'off-line' (eg select test, train staff).
 - 3 **Confirm where the process begins and ends.**
This is a judgement to be made; there is no right or wrong answer.
 - 4 **Identify what falls outside the process.**
These activities will now form part of a related process.
-

Also consider:

- 5 the inputs to and outputs from the process
 - 6 the issues affecting each part of the process
(initial brainstorm of critical issues)
 - 7 the resources used in the process
(including staff/departments involved)
 - 8 the controls and constraints on the process.
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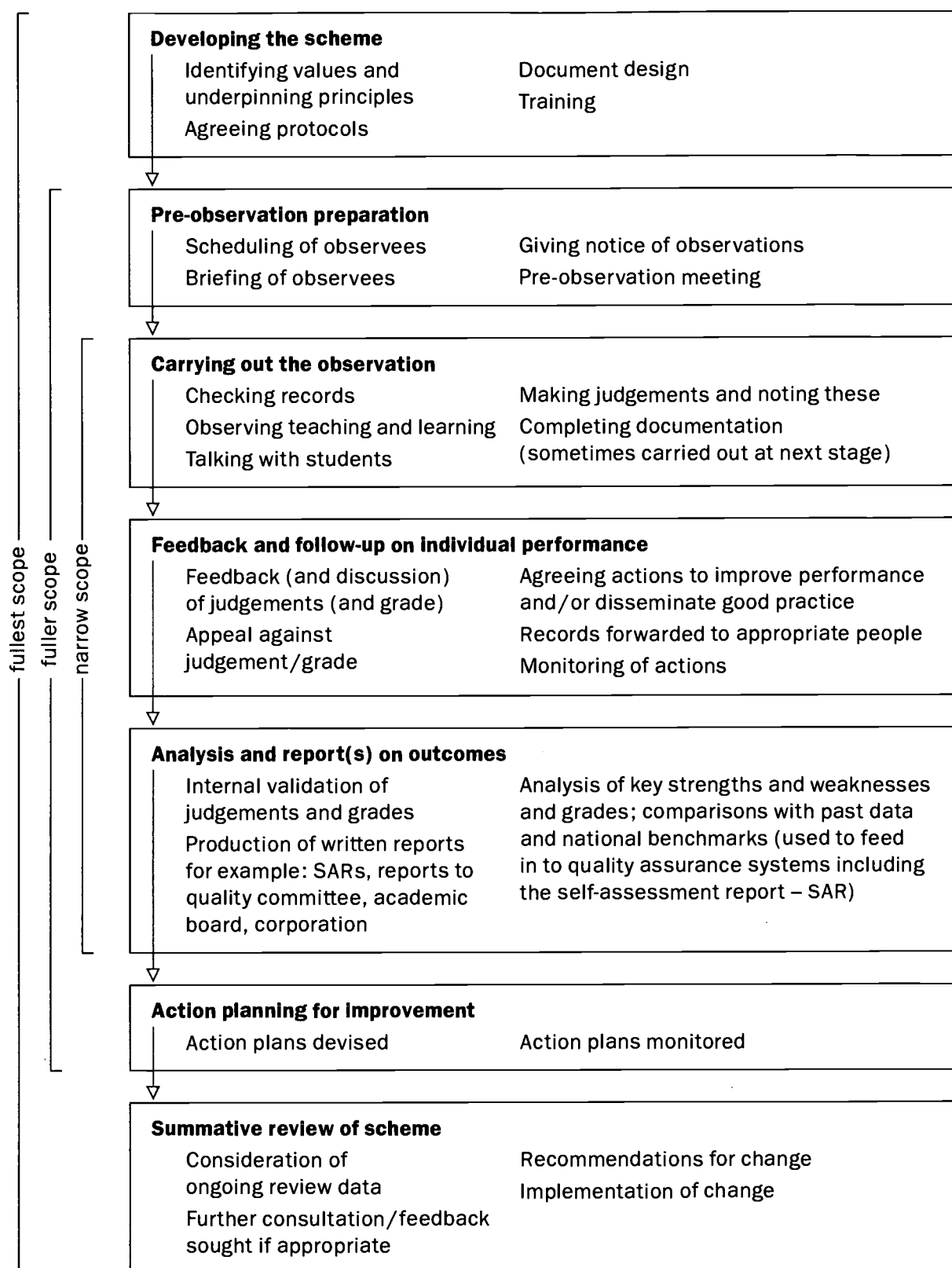
The relationships and dependencies between related processes must be properly understood when agreeing process boundaries. For example, 'initial assessment' or 'learner induction' may be considered part of a 'recruitment process' or a 'teaching and learning process' (or both). The relationship between core and enabling processes should also be clarified. For example, how is the process of 'managing information' used to support the process of 'student admission'? Most boundaries should become evident once the processes have been listed and the hierarchy of levels established.

Note on figure 7

Observation of teaching and learning can be divided into the stages shown opposite. These are not always carried out as a linear process. For example, review of the process may run through the cycle; internal validation, analysis and reporting may happen at several agreed points; there may be update training mid-cycle for observers and observees; actions for improvement, at individual or at corporate level, need not necessarily wait until the end of a complete cycle.

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Figure 7 Scoping a teaching and training observation process



Source: adapted from Moorse R (2001)

Analysing processes

Having scoped the process selected for improvement, the next stage is to define and analyse the relationships between the activities that make up the process. A variety of techniques can be used for this purpose.

High-level process mapping

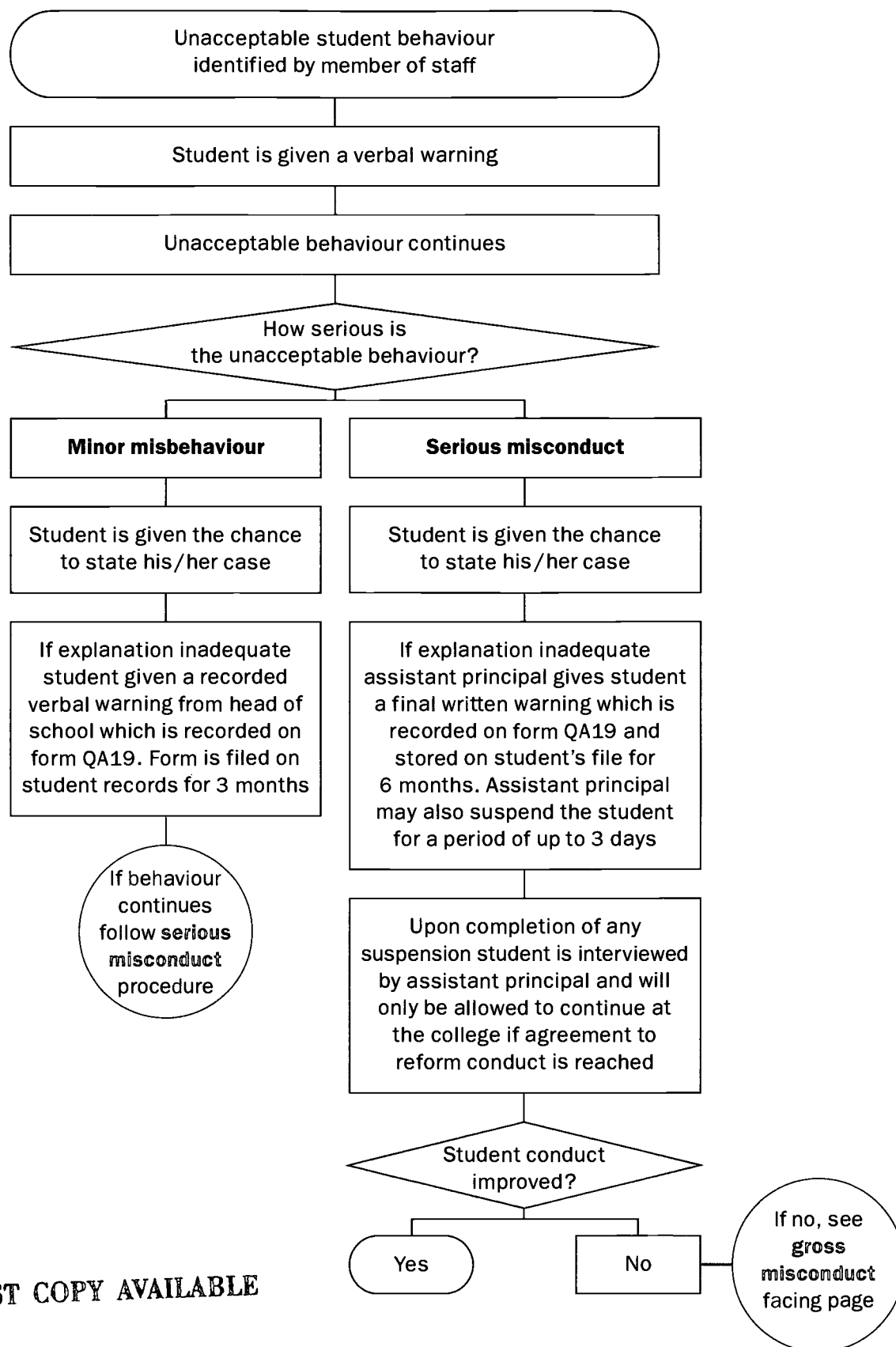
For the design of new processes or for the radical, 'clean-sheet' redesign of existing processes, a relatively simple mapping technique such as integrated definition method (IDEFO) may be used. This involves breaking down high-level processes into their constituent sub processes, activities and tasks (see Figure 4). Each process, sub process, activity or task can then be analysed in terms of its inputs, outputs, resources and constraints (see Figure 1).

Process flowcharting

Process flowcharting is undertaken to define, in greater detail, the activities and tasks in a process, how they link together, the sequencing of operations and the key decision points. The process should be described as it is, not as it is supposed to be. ('As-might-be' or 'as-will-be' flowcharts can be drawn at the redesign stage.) The flowchart should provide sufficient detail to make the baseline for change clear.

Sequence flowcharts are used to illustrate the activities and decision points associated with each stage of a process from start to completion. They can be used to identify illogical sequencing or unnecessary steps. A sequence flowchart for student disciplinary process is given in Figure 8.

Figure 8 Rugby College: student disciplinary process



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Gross misconduct

Gross misconduct is identified including any of the following:

- theft (police are always involved)
- drug dealing
- violent, dangerous or intimidatory conduct
- serious damage deliberately sustained to college property
- downloading inappropriate material (eg pornography) from the internet
- other examples of a similar nature to the above.

Note: Legal representation is considered inappropriate at all stages of this procedure

Gross misconduct procedure

- ↓ Principal/member of college executive/head of school suspends student from college and keeps records of suspension on form QA19 on student's file
- ↓ Within 5 working days of suspension, assistant principal convenes a hearing with the principal
- ↓ Student is given 3 working days' notice of hearing stating date and time and their right to be accompanied by a friend or relative
- ↓ Minutes of the hearing are taken and results are recorded on form QA19 which is filed on student's records
- ↓ If student found guilty of gross misconduct he/she may be excluded from the college
- ↓ Within 5 working days after the hearing principal informs student of decision and the right to appeal against any exclusion
- ↓ If student wishes to appeal against an exclusion he/she must write to the clerk of the Corporation within 5 working days of notification of the principal's decision
- ↓ Within 15 working days of the notification of appeal being received, clerk will set a date for an appeal hearing to include a committee comprising three governors
- ↓ The clerk will inform the student of the date of the hearing, his/her right to be accompanied by a friend and that written or oral evidence may be submitted (written evidence must reach the clerk at least 5 working days before the hearing).

Student is informed of decision within 5 working days of the hearing. Outcome recorded on QA19

This procedure is final. There is no further appeal against the decision. However the student may use the complaints procedure if not satisfied with the process.

Responsibility flowcharts add to a sequence flowchart by showing the function or department that undertakes each step. Such charts can be used to identify excessive interfaces between the work of departments resulting in duplications and problems for customers. (Most customer problems occur at the interfaces of departmental boundaries.) **Purpose flowcharts** can also be used to list sequentially the objectives associated with each stage of a process. The 'added value' of each process step can then be identified.

Process walk-through

A process walk-through involves physically following the flow of a process from beginning to end, talking to people involved in each step of the process. Its main purpose is to compare what actually happens in a process with what is meant to happen. Deviations or errors may happen because procedures are not properly documented, are misunderstood, are too hard to follow or are not accepted. They may also result from the fact that staff are told to do things differently, have a 'better' way of doing things or lack training, facilities or time. A process walk-through can also be used to record staff and learner views on opportunities for (and obstacles to) improvement.

Process step analysis

A simple but structured series of questions can be used to record what activities are undertaken within a process, why they are undertaken, how they are undertaken, by whom, where and when. Technically it is important to distinguish between the work undertaken for the analysis of existing processes (the 'as-is' processes) and that undertaken for the design of new processes (the 'as-might-be' or 'as-will-be' processes). In practice the process analysis phase of the project should always be used to explore redesign possibilities – as illustrated by the italic questions in Figure 9. Redesign options should be logged for use during the redesign stage (see page 30).

Figure 9 Analysing process steps and exploring redesign options

What is done and why?

Is the process step clearly defined?

What does this process achieve?

Is the purpose of each step clear?

Why is it necessary?

Who are the customers/suppliers?

Does it meet customer/supplier needs?

Are there clear performance standards?

What else should be achieved?

Who does it and where?

What staff/departments are involved?

Why is it done by this person/department?

Who is responsible?

Who else could do it?

In which locations is the step undertaken?

Why is it done in this physical location?

Where else could/should it be done?

When is it done?

At what stage is the step undertaken?

Why is it done at this stage?

At what other stage could it be done?

Could it be combined with other steps?

How is it done?

What resources are used?

Why is it done this way?

What are the constraints on the process?

How else could it be done?

Measuring process performance

Performance data is necessary to determine **how well** a process is carried out. It should be used to measure current performance, to compare performance against that of other providers and previous trends and to set standards and targets for improvement in process performance.

Process effectiveness

Process effectiveness describes the ability of a process to produce an output that meets customer needs and expectations. Questionnaire surveys, interviews or focus groups should be used to identify the components of customer requirements, the relative importance of each component and how well performance levels compare to customer needs. The satisfaction levels of staff (as internal customers) should be measured in the same way as for learners, employers and other external customers.

Process efficiency

Process efficiency describes the level of resources (human, physical, financial) required to operate a process. Measures of process efficiency include the resources expended per unit of output and value-added cost per unit of output. As noted on page 5, few providers actually measure the costs of their learning processes. This makes it impossible for them to assess the efficiency of these processes.

There are two other indirect measures of process efficiency.

Process cycle time refers to the time required to convert an input into an output while **process capacity** indicates the volume throughput potential of a process. Both measures are of direct interest to the external customer (eg learners often complain about delays experienced during an enrolment process).

Process flexibility

Process flexibility describes the ability of a process to respond to changing or special customer needs. For example, the needs of part-time learners will often be different from those of full-time learners. Is this reflected in the organisation of learning processes?

Though often difficult to measure, the lack of process flexibility is the commonest cause of customer dissatisfaction. Process flexibility may be evidenced by the extent of non-standard procedures, the time taken to process special requests and the percentage of non-standard requests accepted. Learning providers will increasingly be judged on their capacity to customise processes to meet the needs of individual learners (see Figure 3).

The following extract records the reflections of staff at Solihull Sixth Form College on having mapped their processes for initial assessment and learner support.

When our flowchart arrived we were rather disconcerted to discover that there were five routes which students could potentially take to access support – unnecessary duplication or appropriate access? We asked ourselves, if a student accessed all the support on offer was their experience one of coherence or fragmentation? We also began to unpick issues relating to specific learning disabilities; at-risk students; counselling; support for underpinning skills in literacy and numeracy; key skills delivery and assessment study and learning skills.

Teresa Leaning, Solihull Sixth Form College

Improving processes

Identifying process problems

Having mapped, analysed and measured the process selected for improvement, process redesign teams should be able to provide answers to the following questions.

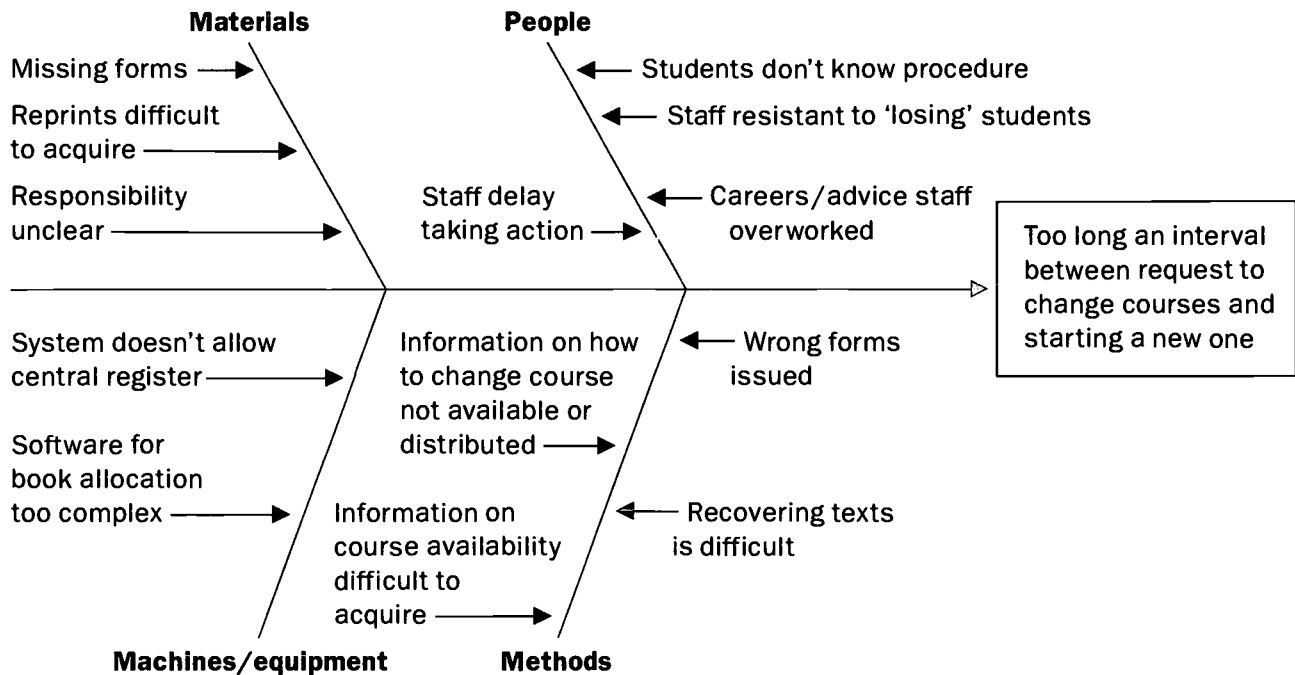
- Does the current process meet customer needs and expectations?
- Is it efficient in the use of resources?
- Is it responsive to special or changing demands?
- What is the gap between actual and desired performance?

It should also be possible to clarify the exact nature of the problem and the reasons for seeking improvement.

- Are there capacity problems?
- What are the error/rework rates?
- Are there unnecessary time delays within the process?
- Are there unnecessary steps within the process?
- Are there excessive interfaces/duplicated activity/hand-offs?

Having determined the nature of the problem, it is necessary to determine the (root) causes of that problem. A variety of problem-solving techniques may be used. Perhaps the best known is the fishbone (cause and effect) diagram. This is a structured form of brainstorming that graphically shows the relationship of causes and subcauses to an identified effect (problem). It is based on the proposition that most problems have their roots in materials, people, machines/equipment and methods used in a process. Figure 10 illustrates the use of this technique in relation to problems experienced by learners in transferring between courses.

Figure 10 Causes of delays in student transfers between courses



Source: Continuous improvement and standards (FEU 1994)

Further examples of tools and techniques for analysing the causes of problems within organisations as well as the implementation of solutions to those problems are given in Owen (2002a).

Benchmarking process performance

We have so far considered ways in which providers can develop a better understanding of the strengths and weaknesses of their key processes. By examining how work is carried out and how it can be improved, it is possible to make continuous improvements in organisational performance. Such an approach will not, however, identify how much change is really necessary or possible. This can only be done by looking outside the organisation and asking, 'Who is best at this process, how are they doing it and how can we become more like them?'

Process benchmarking is a tool to improve products, services and processes by analysing the practices of other organisations to determine the best standards of performance and how to achieve them. It involves comparing specific aspects of one's own provision and performance against that of other learning providers or organisations outside education and training offering comparable services (eg benchmarking a fast food provider to improve the throughput of a student enrolment process).

Key stages in the benchmarking process may be summarised as follows.

- Measure current performance in specified area of activity.
- Compare that performance with standards achieved elsewhere.
- Analyse the ways in which such standards were achieved.
- Assess the transferability of such methods to the context of the provider.
- Develop new/modified practice and improvement targets.
- Produce and implement an action plan.
- Measure performance to see if targets have been achieved.

Codes of practice should be drawn up by providers who wish to enter benchmarking partnerships. For details of how to do this, see Owen 2002b.

Process benchmarking can offer learning providers a powerful strategy for organisational change. Target-setting can be enhanced through the pursuit of challenging standards set by the best providers, rather than low standards set internally. Process development can also be supported through the discovery of methods that lead to superior performance.

The LSDA Raising Quality and Achievement Programme offers support to learning providers wishing to improve and benchmark their processes in specified areas of provision. The programme offers 3 days individual consultancy support, structured networking with other improving colleges through support seminars and partnership working with other providers to secure improvements.

Redesigning processes

Now that the process has been analysed, measured and assessed, it is necessary to consider options for improving performance. Process analysis makes it possible to identify and prioritise improvement needs and to determine the causes of poor performance. It can also reveal a range of improvement opportunities. A process walk-through may, for example, reveal why certain errors regularly occur. A sequence flowchart may indicate illogical sequence of operations. A responsibility flowchart may show excessive interfaces, duplicated activity or hand offs, while a cycle time analysis may highlight unnecessary delays. A survey of customer expectations may reveal that some services are no longer required.

'Innovation' or brainstorming workshops should be held to find creative solutions to process problems. Teams should be given the authority to question existing policy and practice, to think outside existing boundaries (including functional boundaries), challenge false assumptions and strive beyond existing best practice. Above all, they should always ask **why** work is carried out.

Options for redesigning processes are summarised.

- ▣ **Rationalising** removing the need for the process.
- ▣ **Streamlining** eliminating duplication/non-value-adding steps or combining steps.
- ▣ **Standardising** using a single process for a range of similar services/customers.
- ▣ **Customising** using multiple processes for a range of similar services/customers.
- ▣ **Moving decision points** making decisions earlier/later in the process.
- ▣ **Sequencing** performing process steps simultaneously not sequentially or vice versa.
- ▣ **Changing throughput** changing the size or frequency of processing.

Teams will also need to consider the likely impact of such changes on the operation and performance of other related processes.

Apart from changes to processes, design teams should consider how the effectiveness, efficiency or flexibility of a process might be enhanced by:

- ▣ revising policies and systems
- ▣ changes in roles and responsibilities
- ▣ the introduction of new technology
- ▣ the acquisition of new facilities and equipment
- ▣ improvements to staff development and training
- ▣ changes to staff appraisal and reward systems.

More wide-ranging changes to the structure and culture of the organisation may also need to be considered (see page 37).

Teams should always have a clear 'vision' for process redesign (see page 40). They should nevertheless offer redesign proposals that are practical and acceptable. Factors that need to be considered include:

- ▣ costs and resources required
- ▣ timescales for implementation
- ▣ impact on systems and structures
- ▣ external compliance requirements
- ▣ expected risk – consequences of failure
- ▣ expected support/resistance.

There are a variety of tools and techniques for analysing change, predicting the consequences and dealing with sources of resistance. Perhaps the best known is the 'force-field analysis' developed by Kurt Lewin (1951). Lewin argued that organisations exist in a state of equilibrium in which the forces for change (the driving forces) are counterbalanced by the forces against change (the restraining forces). This equilibrium reinforces the status quo. Figure 11 identifies a typical set of driving and restraining forces.

Figure 11 Force field diagram: driving and restraining forces for organisational change

Driving forces	Restraining forces
New personnel	☐ From individual
Changing markets	Fear of failure
Shorter product life cycles	Loss of status
Changing work attitudes	Inertia (habit)
Internationalisation	Fear of the unknown
Global markets	Loss of friends
Social transformations	☐ From organisation
Increased competition	Organisational culture
New technology	Rigidity of structure
	Lack of resources
	Contractual requirements

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Setting service standards

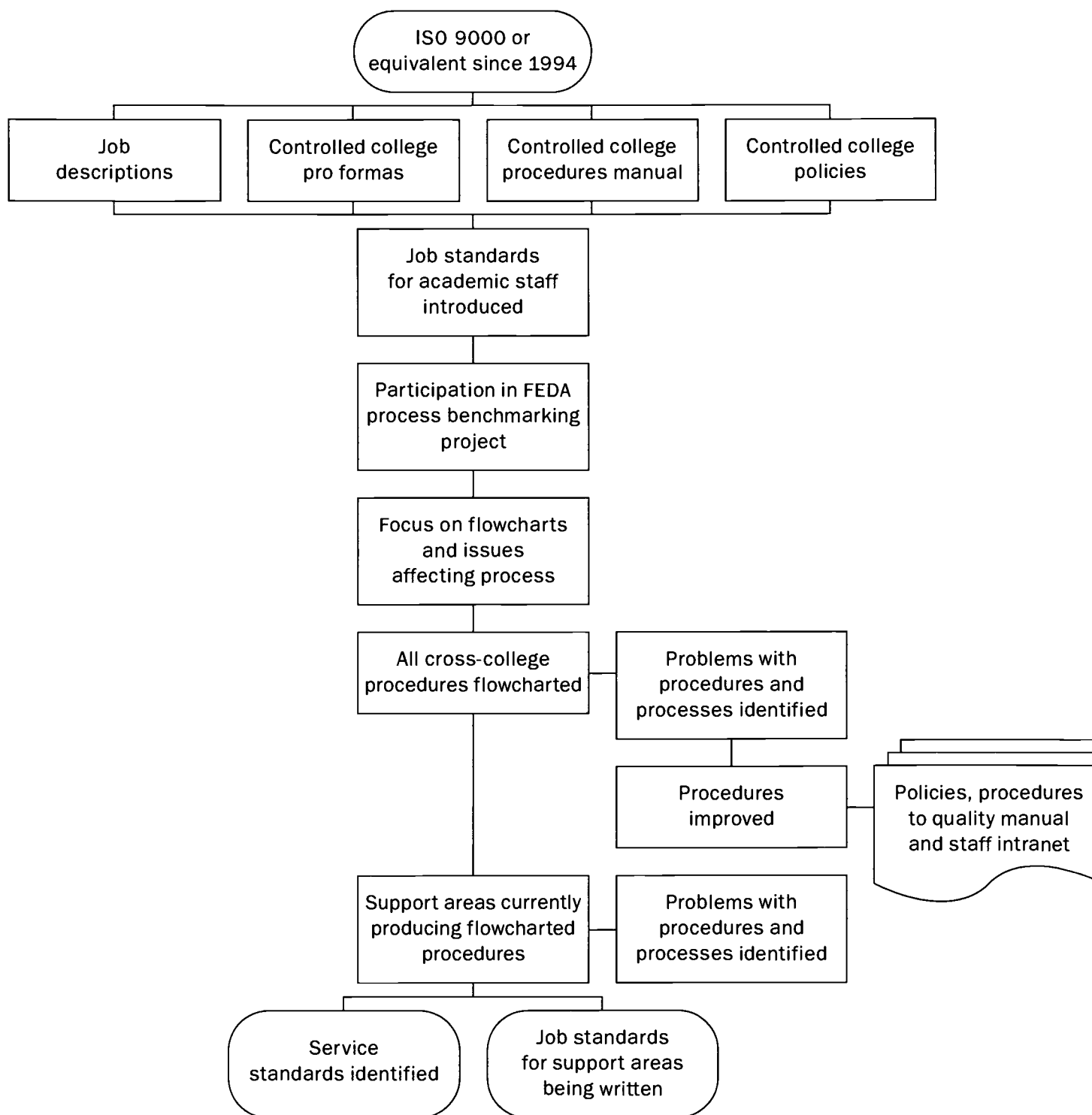
Standards express the level of performance that can be expected from a given product or service. They should be process (as well as function) orientated and set for both high-level processes and the various sub processes/tasks on which the former depend. Service standards for student admissions are, for example, unlikely to be realised unless appropriate standards are set and realised for the activities involved in handling applications, interviewing learners, and so on.

Service standards should reflect the needs of (internal and external) customers. They must, however, be realistic and understood/accepted by all process participants. Standards may need to be differentiated for different groups of customers. For example, full-time learners might be offered a 30-minute individual tutorial every 2 weeks and part-time learners a 15-minute individual tutorial every 4 weeks.

Performance measures should be agreed for each service standard. Measures are the means by which actual performance is monitored and checked against agreed standards. Some standards are easy to measure – the frequency and duration of tutorials can be measured by tutorial records. Others will need to rely on more impressionistic qualitative data – a standard aimed at offering a ‘supportive tutorial environment’ may, for example, be assessed through student satisfaction surveys. Measurement is necessary to verify that processes are performing in accordance with agreed objectives and standards.

Figure 12 charts the ‘process’ journey undertaken by Rugby College in developing college-wide service standards. The college has successfully developed process flowcharts to offer a powerful visual representation of process entitlements and responsibilities for the benefit of internal and external customers (see Figure 8).

Figure 12 Rugby College: improving service standards



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Implementing new processes

A process implementation team should be appointed to carry forward the agreed redesign. The team should include representatives of all the functions and services contributing to the process, including its customers and suppliers. This is critical to establishing the ownership of the new process and is particularly important where the redesign phase of the project has been carried out by an independent team. ('Top-down' design is thereby balanced with 'bottom-up' implementation.)

The team should produce a development project plan specifying the activities, responsibilities and timescales for achieving agreed objectives and standards for the redesigned processes. The expected impact of changes on related processes should also be specified. Additional resources to carry out the plan should be recorded and costed. Training needs should also be addressed before the changes are made.

The plan may require changes to long-established practices so it is important that it is authorised at an appropriate level. The team should consult all staff involved in the new process to explain the nature of (and reasons for) the proposed changes. Proposed developments should also be communicated to the wider community. Good communications will help overcome potential resistance to change.

Where possible, redesigned processes should be pilot tested and evaluated, against agreed performance criteria, before proceeding to full implementation. Pilot testing will make it possible to identify unpredicted difficulties and to revise processes or standards before the new service is fully implemented. Arrangements for pilot testing should be included in the project plan.

The implementation team will be responsible for monitoring the plan and evaluating outcomes. The following questions should be addressed for this purpose.

- ☐ Did actions taken conform to the plan?
- ☐ If not, why not?
- ☐ What results were achieved?
- ☐ How did the results compare with the expected/desired results?
- ☐ Were the overall goals/objectives achieved?
- ☐ Were there unintended (positive or negative) outcomes?

Where appropriate, further analysis or corrective action should be undertaken to reconfigure the processes and to modify standards. At an appropriate time the implementation team should be disbanded and responsibilities for the ongoing operation of the process handed over to staff with dedicated roles and responsibilities for the operation and improvement of the process (see page 37). These staff should continue to look for improvement opportunities by questioning how and why work is carried out.

The implementation of a major new process may take up to 2 years. New ways of working must be proven step by step. Implementation teams should seek 'quick-wins' and try to establish a momentum of success. The success or failure of redesign proposals is likely to depend not on technical issues but on the structure and culture of the organisation. Such matters must be addressed at the start of the implementation phase and during pilot testing. They are dealt with in the next section.

Processes, structure and culture

Changes to structures

Once key processes have been defined, systems can be developed and structures established to control and manage them. Because processes typically cut across functional boundaries, the overall responsibility for the successful operation and improvement of each process is rarely well defined. A **process owner** (sometimes called a process manager/leader) should therefore be appointed for this purpose. The process owner should be given authority for integrating different parts of the process (and minimising functional bias) and ensuring that it remains responsive to customer and organisational needs. Sub-process owners may be appointed to manage parts of the process.

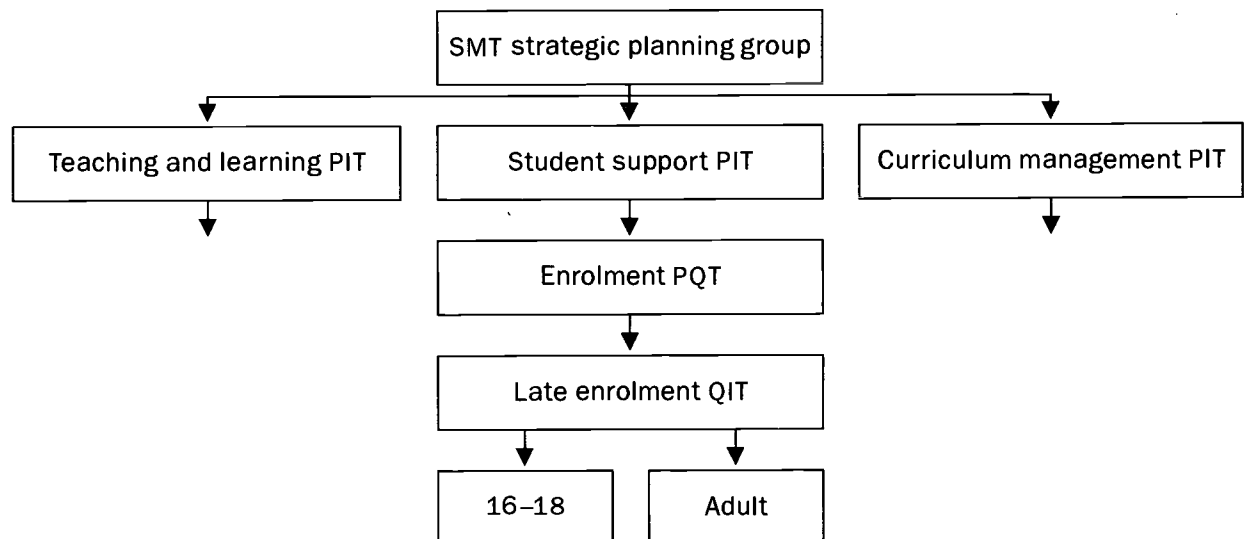
Process improvement teams (PITs) should be established to ensure the continuous improvement of individual processes, under the direction of the process owner. (Sub-process improvement teams may be established for different sections of total process.) PITs may be complemented by **functional improvement teams** focused on improvement opportunities which fall within the scope and authority of individual departments or areas of learning. Such teams provide the opportunity for all staff to participate in the improvement effort. Matters that fall beyond the authority and control of an individual department can be referred to the appropriate PITs. Cross-functional **task teams** may be set up to deal with high-level, inter-functional matters like the introduction of new student data systems.

A **steering group** should be established to develop and promote a high-level plan for process improvement in the light of strategic objectives, cross-functional improvement needs and known dependencies between the processes.

It should oversee the progress of process improvement projects and advise the senior management team (or quality council) on the approval of process improvement projects and development plans arising from these projects. It should also identify obstacles to process improvement programmes, resolve internal conflicts and advise on the transition from existing to new processes.

Runshaw College has developed a comprehensive management structure for its key processes. Under the overall direction of the SMT strategic planning group, PITs have been established to review the operation of each key process and to set plans and targets for improvement. PITs may commission major re-engineering projects. They may also set up process quality teams (PQTs) to examine particular problems with their process. Each PQT may in turn commission a quality improvement team (QIT) to examine particular aspects of the process problem. The process improvement structure at Runshaw College is illustrated in Figure 13.

Figure 13 Process improvement structure at Runshaw College



Culture change

It is likely that changes to the culture of an organisation will be necessary if a provider is to exploit the opportunities offered by process redesign and subsequent restructuring. Without the right pattern of values, beliefs and attitudes, process improvement efforts are unlikely to be successful. Runshaw College, for example, has sought to ensure that the 'hard necessities' of quality improvement – strategy, systems and structures – are underpinned by the 'soft foundations' of improvement – staffing, skills style and shared values. In doing so, it recognises that the logical, technical and observable aspects of process improvement must be matched by the strategies that reflect the human and creative elements of change.

There have been extensive studies to identify the attributes of a successful organisational culture. Some of the key characteristics are summarised below.

- **Focus on quality** Quality is the standard by which the organisation judges itself. The emphasis is on designing quality into processes rather than corrective action. Commitment rather than compliance is the driving force.
- **Service ethic** Improvement efforts are focused not just on problem-solving but on anticipating and satisfying the needs of internal and external customers.
- **Clear leadership** Leaders are visibly committed to quality improvement and communicate a clear vision and values to which staff are committed.
- **Performance measurement** Quality improvement actions are driven by evidence rather than supposition. Data, statistical tools and feedback systems are used systematically.
- **Self-critical judgements** Staff are willing to identify and deal with problems without fear of sanction. Successes are acknowledged and valued.
- **Continuous improvement and innovation** A never-ending search for continuous improvement is balanced by measures for more radical change (doing things differently, not just better).
- **Organisation-wide improvement** Staff at all levels, in all functions, are empowered to exploit improvement opportunities. Human resources are systematically developed.
- **Teamworking and collaboration** Working arrangements are based on collaboration not competition. Cross-functional working enables the integration of activities across departmental boundaries.

Some, or all, of these characteristics are likely to be found in the policy statements of most learning providers. Too often, however, such statements are at odds with the values, beliefs and attitudes embedded in everyday organisational practices. The challenge is to create a culture where the rhetoric matches the reality.

A vision of process and organisational change

A process improvement programme may be carried out at any level of the organisation across any spectrum of activity and within or across departmental boundaries. A section head or head of department may, for example, set up a small, tightly scoped project to improve arrangements for notifying learner results to schools and colleges. The project can be completed quickly with few risks. The tools and techniques of process improvement can be used selectively. Improvements can be shared with other parts of the organisation and project team members used as a resource to support other initiatives which are rolled out on a phased basis.

This type of incremental approach to process improvement is consistent with a philosophy of continuous improvement (see page 7). Small changes can be carefully balanced against wider forces of emergent change within the organisation. The project team can assess the likely impact of any changes on related processes – in the example in the previous paragraph to wider issues related to the assessment of learners and/or liaison with other ‘feeder’ organisations. This can in turn form the basis for establishing a wider process improvement programme where fuller attention can be given to the organisational and cultural implications of change.

Such a ‘bottom-up’ approach to process change may not be sufficient to match the required scope and pace of change required by some providers. Changes in strategic direction, new opportunities or external pressures (critical inspection reports, funding crises or competition from new providers) may demand a more radical rethink of work undertaken within the organisation, how that work is undertaken and, above all, why. For such providers ‘re-engineering’ may offer greater opportunities to exploit the potential benefits of process-based change.

Process re-engineering seeks step-change improvements in institutional performance through a fundamental reappraisal and redesign of high-level processes. For a learning provider this would involve:

- defining its key learning processes (core, enabling and compliance)
- mapping, analysing and assessing the performance of those processes
- identifying processes with maximum potential for improvements in performance which are critical to the success of the organisation
- developing an overarching plan and programme for process improvement
- establishing a structure for managing the programme (see Figure 13).

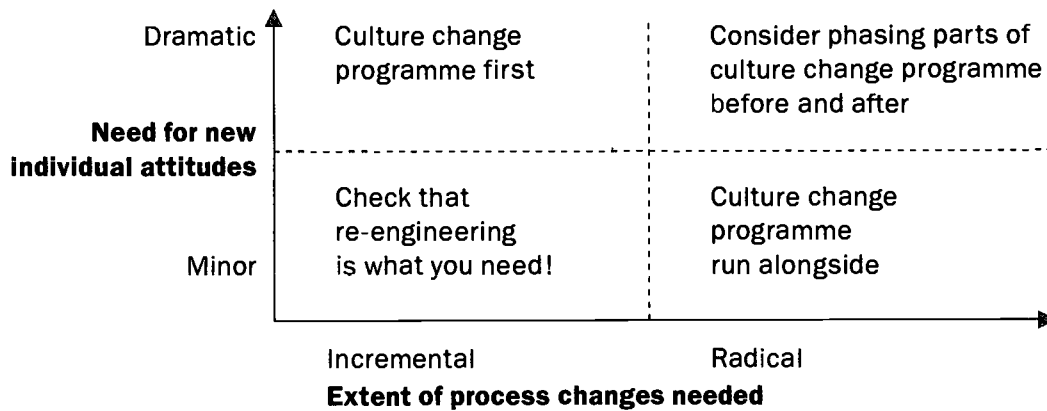
An account of such an exercise within an educational setting is described in a case study by the author of this guide (Cox 1999).

Process re-engineering can provide a 'big-picture' view of the work carried out within an educational or training organisation and a strategic focus for an improvement. Insights into the critical relationships between learning processes can also be used to plan and manage multiple projects and to integrate project outcomes.

Against this must be set the time, resources and potential risks of carrying out 'clean-sheet' redesign projects. Changes to the organisation and culture of the organisation are an inevitable consequence of the cross-functional thinking and working inherent in re-engineering programmes. Strategies for dealing with territorial interests will also need to be developed as part of the process of winning the 'hearts and minds' of staff.

A culture change programme will need to be developed before or alongside the re-engineering programme – see Figure 14.

Figure 14 Culture change programme to support process re-engineering



Source: Oblenski 1996

To be effective, re-engineering requires not only effective consultation but also the active participation of staff in implementing the detailed changes to processes brought about by high-level process redesign. 'Top-down' redesign is thereby balanced by 'bottom-up' implementation of redesign proposals and a cycle of continuous process improvement until the need for further intervention is identified. Continuous improvement projects should also be located within a wider vision of organisational change to avoid the dangers of 'unplanned incrementalism'.

A vision for process redesign for all types of process improvement programmes might be summarised as follows.

- Processes are aligned with the strategic direction of the provider.
- Processes are responsive to the needs of internal/external 'customers'.
- Process boundaries and links between processes are clearly defined.
- Enabling processes support the needs of the core processes.
- All work is based on value-adding activity and the understanding of best practice.
- Service standards are agreed for process performance.

Process improvement programmes should also encourage the development of more flexible organisational structures based on teamworking across functional and departmental boundaries. Quirk describes the work of staff in such a 'networked' organisation:

The move to managing a network, rather than a hierarchy, requires a more flexible approach to management. The focus is on solving problems quickly through bringing together teams from across functions. Teams are assembled to meet a particular problem, and may be disbanded again once the problem has been addressed. Communication centres on establishing networks as a means of creating cooperation and sharing knowledge'.

Quirk (1996)

Such a vision of organisational change might also be represented as follows.

- Processes are aligned with customer needs and strategic goals.
- Work units change from functional departments to process-/customer-focused teams.
- Process owners and teams are collectively responsible for process results.
- The organisation presents a single, unified point of contact to external customers.
- Employees become customer focused and empowered to make their own decisions.
- Teamwork ethic replaces traditional management functions and reporting lines.
- Jobs change from single task to multi-dimensional work.

This guide has:

- identified a range of strategies that can be used for improving the learning processes of education and training providers
- examined some of the tools and techniques that can be used to analyse and improve those processes
- identified opportunities and constraints that should be addressed in planning process improvement programmes and choosing/implementing redesign solutions
- considered some of the organisational and cultural implications of process-based change.

Whatever the starting point or direction of the journey, process improvement programmes can offer major benefits to education and training providers. They can be used to support strategic goals and promote more flexible ways of working. They can be used to eliminate unnecessary activity and reduce costs. More fundamentally, the focus on customers can be used to ensure that improvement is centred on the needs of learners. Process improvement can be used to improve both the quality of educational and training services and the standards of learning outcomes. To restate one of the key principles of this guide – it is not possible to improve learning outcomes without enhancing the learning processes by which such outcomes are achieved.

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**raising quality
and achievement
programme**

Good learning outcomes presuppose effective learning processes. This guide explains how the key processes of colleges and other learning providers can be systematically planned, managed and improved to achieve better organisational results. It also examines some of the critical factors for improving process performance.

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